Review of: "Design of a Smart Motorcycle Parking System based on Wireless Sensor Network (WSN) in a Multilevel Building at Universitas Pendidikan Indonesia"

Kirtan Gopal Panda[1]

1 Indian Institute of Technology Kharagpur

Potential competing interests: No potential competing interests to declare.

Recommendation: Accept (with minor modification)

In this article, the authors have presented a prototype for smart motorcycle parking management. The proposed prototype demonstrates systematic bike parking assistance while simultaneously addressing parking issues like unauthorized parking and parking on the road. Through live experiments, the performance of the designed prototype is examined.

A very interesting subject is treated throughout this paper: the era of automation. It is essential for avoiding traffic congestion and accidents near markets and public meet-ups. With the help of experimental images, the paper was easy to follow, which I greatly appreciated. However, some aspects need to be improved and enhanced for worldwide readership. I would suggest the following amendments:

1. The author assumes that if the main entry gate and a corresponding floor entry gate open through an RFID card, then the bike is parking properly and no penalty. But who is ensuring that inside the floor, bikes are parking properly? Some feedback mechanism should be developed, like a web cam or ultrasonic sensors on each bike parking slot.
2. Ultrasonic sensor (HCSR-04) maximum range is four meters only. For the prototype design, there is no issue at all. However, in real time, which sensor will be used needs to be discussed as a future study.
3. In the following chart, the following changes may be required:

- Fig 4: The input ride data block will be placed after the ID decision and before the save data to database block.
- Fig 5: No need to present a block “Close the main entrance parking gate” as the block “Open the main entrance parking gate (30 seconds)” justifies that after 30 seconds, the main gate will close.
- Fig 6: The decision will be YES (not Ya). What is Tidak?

4. The author has to give a space before writing Fig. X throughout the paper. There are a few suggestions:

- Page 2, Sentence ‘ ….. UPI motorcycle parking area’ clearly mentions UPI as a place name; otherwise, the reader may understand it’s an acronym.
- Page 2, First write the full form of RFID, IR, then use the acronym throughout the paper.
- Page 3, ‘…… 3 ESP32 microcontroller’ better written as “….three ESP32 microcontrollers” so that the reader won’t

confuse 3 as an IC name or a number. Likewise, 2 main entrance and others.

- It would be better to write, instead of "entrance" in '…. 2 main entrance and exit gates….', '…..entry and exit gates…..'
- Giving clear images (not hazy images) will help readers to visualize the outcomes properly.